

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

1. (Previously Presented) A device for injecting a secondary fluid located between two successive upper and lower granular beds to produce and distribute a polyphase mixture between said secondary fluid and a fluid or mixture of fluids originating from the upper granular bed, said device comprising an injection chamber for injecting a secondary fluid, contact apparatus for said secondary fluid and at least a portion of fluid or mixture of fluids originating from the upper granular bed, and distribution apparatus for simultaneous distribution of a mixture resulting from said contact to the lower granular bed, in which said contact and distribution apparatuses are conduits (204) with a substantially constant diameter along their axial length traversing said injection chamber and pierced with orifices (208) over their lateral wall, said device further comprising conduits (206) for the passage of a gaseous fraction of fluid or a fluid mixture originating from the upper granular bed, said conduits (206) traversing the chamber in a fluid tight manner and covered with a circular plate (207) preventing flow of a liquid fraction of the fluid or fluid mixture originating from the upper granular bed through said conduits, the height of conduits (206) being greater than the maximum height reached by liquid forming above plate (200) on the upper portion of the chamber.

2 - 16. (Canceled)

17. (Previously Presented) A device according to claim 1, wherein the contact and distribution apparatuses extend below the chamber by a distance h_t .

18. (Currently Amended) A device according to ~~claim 24~~ claim 1, in which the distance between the bottom of the conduits (204) and the upper surface of the lower bed is in the range 0 to 50 mm, 0 excluded and the density of the conduits (204) is more than 80 per square meter.

19. (Previously Presented)

A fixed bed reactor, comprising:

at least one upper bed of granular solids;

at least one lower bed of granular solids;

at least one device for injecting a secondary fluid located between the upper and lower granular beds to produce and distribute a polyphase mixture between a secondary fluid and a fluid or mixture of fluids originating from the upper granular bed, said device comprising an injection chamber for injecting a secondary fluid, contact apparatus for said secondary fluid and at least a portion of fluid or mixture of fluids originating from the upper granular bed and distribution apparatus for simultaneous distribution of a mixture resulting from said contact to the lower granular bed, said lower bed being located downstream of said fluids;

at least one separate line for injecting said secondary fluid into the injection chamber, said separate line being substantially perpendicular with respect to the vertical axis of the reactor, said device further comprising conduits (206) for the passage of a gaseous fraction of fluid or a fluid mixture originating from the upper granular bed, said conduits (206) traversing the chamber in a fluid tight manner, and having a plate (207) preventing flow of a liquid fraction of the fluid or fluid mixture originating from the upper granular bed through said conduits, the height of conduits (206) being greater than the maximum height reached by liquid forming above a plate (200) on the upper portion of the chamber.

20. (Canceled)

21. (Previously Presented)

A reactor according to claim 19, comprising

means for circulating liquid and gas phases through the granular bed or beds in a co-current descending manner.

22. (Previously Presented)

A reactor according to claim 19, wherein a bed

or beds of granular solids comprise at least one catalytic granular solid.

23. **(Withdrawn)** A process comprising conducting a hydrodesulphurisation, selective hydrogenation or hydrodenitrogenation reaction in a reactor according to claim 19.

24. **(Canceled)**

25. **(Currently Amended)** A device for injecting a secondary gas, ~~located comprising, between two successive upper and lower granular beds, to produce and distribute a polyphase mixture between said secondary gas and a gas/liquid mixture originating from the upper granular bed,~~
comprising a chamber for injecting said secondary gas, crossed in a fluid tight manner by a first series of mixer channels (224), the upper part of said chamber forming a plate (220) obtaining a liquid level above this plate, said mixer channels (224) being pierced with orifices in their upper portion immersed in the liquid, a second series of conduits (222) for injecting secondary gas from said chamber into the liquid, and means for circulating liquid and gas phases through the granular bed or beds in a co-current descending manner, said device being able to produce and distribute a polyphase mixture between said secondary gas and a gas/liquid mixture originating from the upper granular bed.

26. **(Previously Presented)** A device for injecting a secondary fluid located between two successive upper and lower granular beds to produce and distribute a polyphase mixture between said secondary fluid and a fluid or mixture of fluids originating from the upper granular bed, said device comprising an injection chamber for injecting a secondary fluid, contact apparatus for said secondary fluid and at least a portion of fluid or mixture of fluids originating from the upper granular bed, and distribution apparatus for simultaneous distribution of a mixture resulting from said contact to the lower granular bed, said device further comprising conduits (206) for the passage of a gaseous fraction of fluid or a fluid mixture originating from the upper granular bed, traversing the chamber in a fluid tight manner, and having a plate (207) preventing flow of a liquid fraction of the fluid or fluid mixture originating from the upper granular bed through said conduits the height of

said conduit (206) being greater than the maximum height reached by liquid forming above plate (200) on the upper portion of the chamber.

27. (Previously Presented) A device according to claim 25, in which the distance between the bottom of the conduits (224) and the upper surface of the lower bed is in the range 0 to 50 mm, 0 excluded and the density of the conduits (224) is more than 80 per square meter.

28. (Canceled)

29. (Canceled)

30. (Previously Presented) A device according to claim 25, wherein the conduit (224) have a substantially constant diameter along their axial length traversing said injection chamber and pierced with orifices over their lateral wall.